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A Rare Case of Recurrent Vulval Synechiae

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ABSTRACT

Key Words: Estrogen therapy, Labioplasty, Recurrent labial adhesions, Z-plasty

INTRODUCTION

Labial adhesion (labial agglutination / labial synechiae) is the fusion of labia minora in the midline and are usually asymptomatic and common between 3 months and 3 years of age. Vulva synechaie is rare in menstruating women [1]. They are usually congenital in origin managed by estrogen or steroid rich local agents and resolves spontaneously till puberty [2]. Even if presenting in menstruating age groups they will have history of trauma, sexual abuse or insufficient estrogen levels to account for labial fusion where irregular healing will cause recurrent fusion. Range of symptoms will vary from local infection like urinary tract infection (UTI) or vaginitis (due to stasis of urine and vaginal secretions) to hydrocolpos or pyocolpos.

CASE REPORT

A 12-year-old girl was brought to the hospital after getting treated for recurrent UTI at multiple centres outside, with history of dribbling of urine, passing thin stream of urine and burning micturition since 2 months. There is no history of white discharge, any sexual abuse or trauma. The patient attained menarche 1 month ago with regular cycles and adequate flow of blood with occasional dysmenorrhoea. On clinical examination, patient is moderately built and well-nourished with secondary sexual characters corresponding to age. Systemic examination including abdominal

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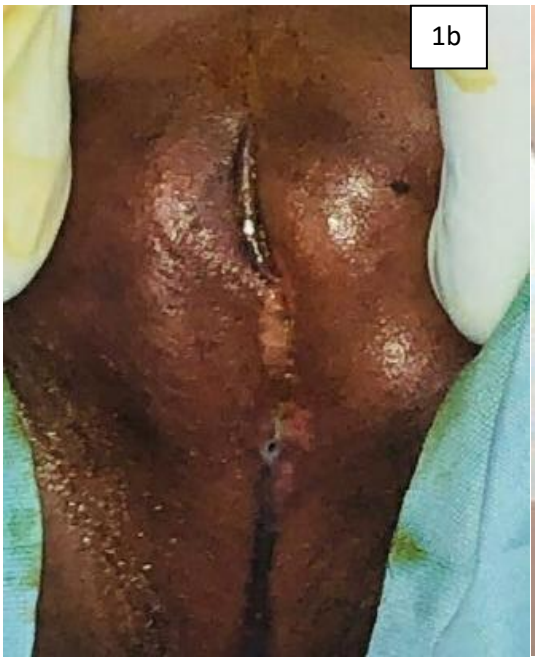
examination revealed no significant findings. On local examination, labia majora found to be adhered with a small pinhole opening near the posterior fourchette. The urethral meatus and vaginal introitus were not visualised. Routine blood investigations were found to be normal. Urine routine and microscopic examinations revealed increased leukocytes and features suggestive of UTI. Ultrasound of abdomen showed normal genitourinary structures with no residual urine and no evidence of cystitis or hydrocolpos. Examination under anaesthesia with labial adhesiolysis done and cystoscopy was done, with patient in lithotomy position where intra operative findings showed thick labial adhesion, flakes seen in vulva, signs of vaginitis present with edematous labia. Thick adhesions were incised and raw area approximated with 5-0 vicryl on both sides. Using 9 Fr. zero-degree cystoscope, the interior of the bladder was filled with turbid urine and flakes. Both ureteric orifices were seen in normal position. Bladder wash was given. Post-procedure estrogen cream applied twice daily for 6 weeks. Patient came back with recurrent adhesion after 2 months, when gentle adhesion release was done under sedation. When she came back with 3rd episode of recurrent adhesion, she was managed with manual separation and instead of estrogen she was advised 0.5% Betamethasone cream to apply once daily for 6 weeks, along with local cleanliness was advised. 2 months later presented again with similar symptoms where she had thin stream of urine, low menstrual flow and posterior voiding. Local examination revealed partial adhesion in the anterior/upper half of labia. This was managed with multi approach techniques of manual separation, catheterisation done for 2 weeks, vulval dilation with Hegar's dilator twice daily, steroid application at night time, vulval cleaning and hygiene after treatment and regular exercise like squatting and butterfly position was carried out for 3 months.

1a



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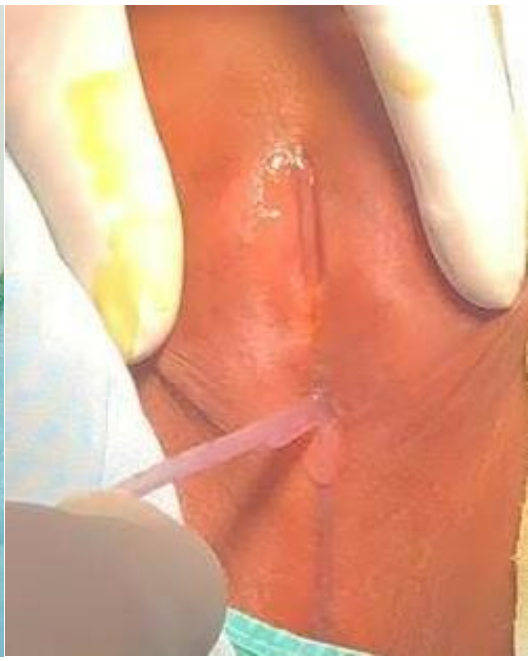

Fig. 1a - Presentation at first visit. **Fig. 1b - Dilatation attempted with Hegar's dilator.**

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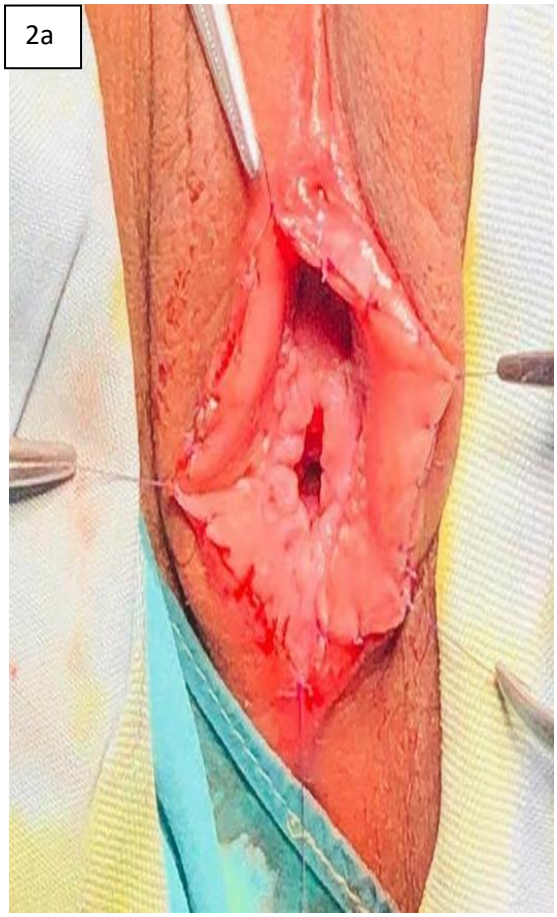

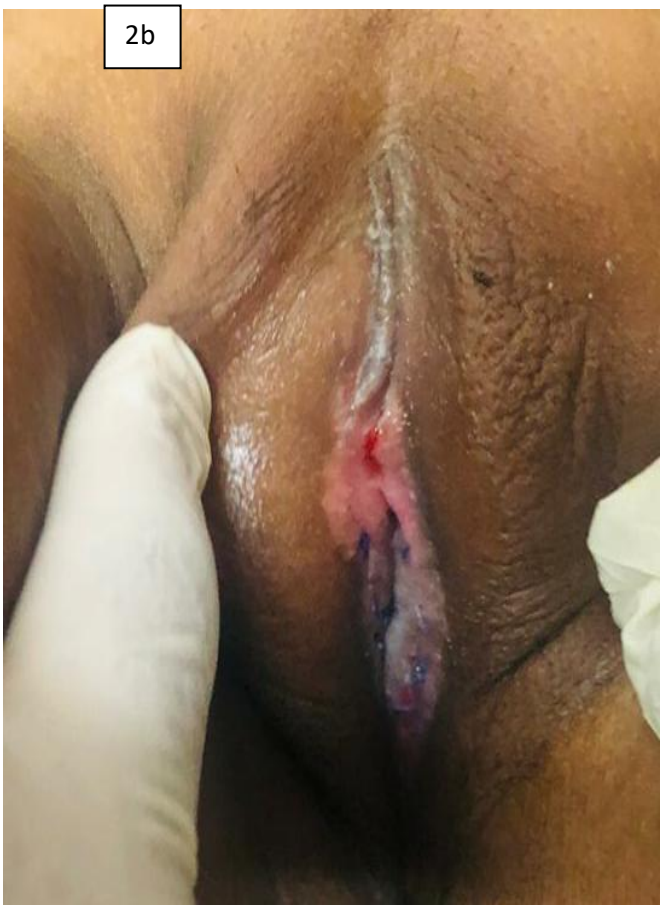

Fig. 2a - Adhesions released surgically with linear incisions.

Fig. 2b - Post op follow up presentation with recurrent adhesions.

Patient again presented with dysuria and local examination revealed fused labia majora, pin-point opening in middle of fourchette and vaginitis. The urethral meatus and vaginal introitus was not visualised. Under local anaesthesia, dilatation of the orifice was done, oral systemic and local antibiotics were given, and labioplasty using multiple Z-plasty technique was planned in view of recurrent labial adhesions.

Under spinal anaesthesia, the patient was placed in lithotomy position and the dense adhesions were released with blunt dissection anteriorly till the clitoris and posteriorly upto posterior margin of fourchette. Foley's catheter was inserted after confirming normally placed urethral and vaginal opening. The raw area was approximated with 4-0 polyglactin sutures on either side following which multiple Z-plasty incisions were marked and executed. The Z-plasty flaps were transposed and sutured with 4-0 polyglactin sutures. The post operative period was uneventful.

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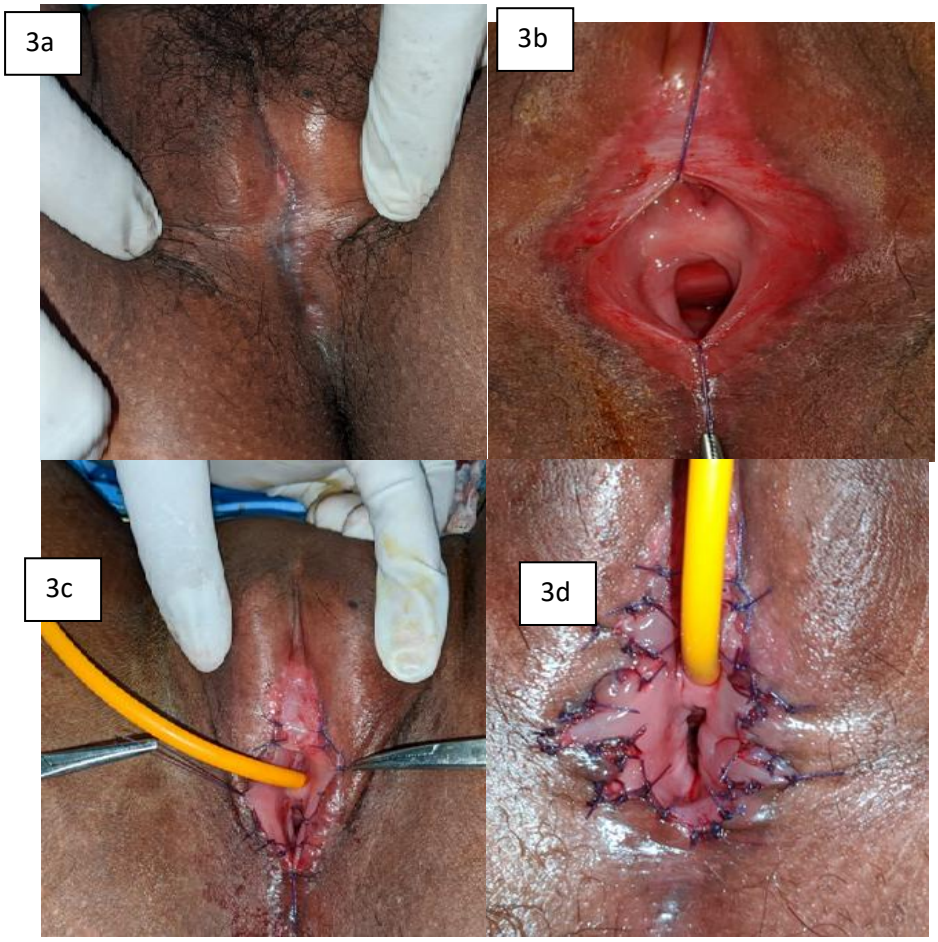

Fig. 3a - Recurrent labial adhesion after application of estrogen locally with pinhole
Fig. 3b - Adhesiolysis done intraoperatively
Fig. 3c - Raw area was approximated with 4-0 polyglactin sutures on either side
Fig. 3d - Z-plasty flaps were sutured with 4-0 polyglactin sutures

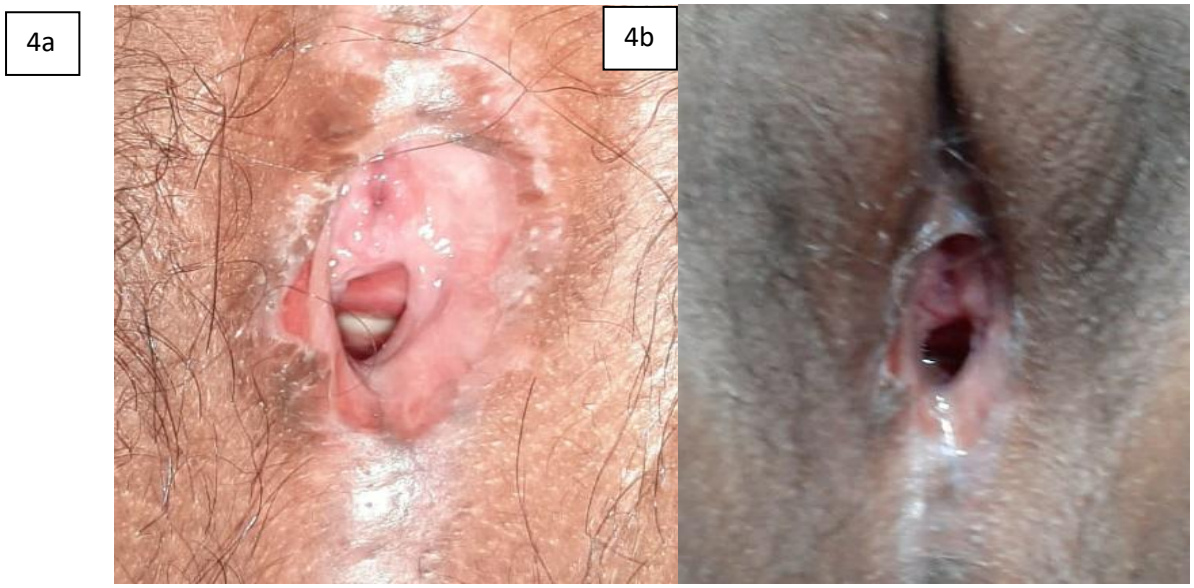

Fig.4a & b - Presentation at follow up visit two months after surgery.

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DISCUSSION

A 12-year-old girl, came with complaints of labia minora adhesions post menarche without any history of trauma or sexual abuse. Five attempts of adhesiolysis were done post which each time the patient came with recurrence. Estrogen and betamethasone local applications were tried in vain along with manual manipulative efforts to avoid recurrence which included self-dilatation, butterfly squatting position and local hygiene [3].Inspite of all effort's patient continued to have adhesions complicated with recurrant UTI and vaginitis. Labioplasty was planned in addition to adhesiolysis using Z-plasty technique to approximate normal mucosa to skin with a view to avoid recurrent adhesions. Procedure was uneventful and patient's recovery was satisfactory post procedure during which irrigation of wound with betadine and normal saline.

Labial adhesions are more common during nappy years, in an age group of 3 months to 3 years. The outer surface of the labia minora, lined by squamous epithelium, is thin and delicate. Irritation and inflammation can cause the outer skin to become exposed and raw which then heal together in much the same way as any skin cut might heal. The causes of inflammation or irritation of skin of labia minora can be faeces, urine, strong perfumed soaps, bubble baths, vulvovaginitis, atopic dermatitis, pinworms, labial injuries or sexual abuse. Usually, the labia start to fuse at the bottom end (posterior fourchette) and work up towards the clitoris. Low estrogen levels are thought to contribute to development of such adhesions. The condition usually resolves during puberty because the effect of estrogen changes the cells that line the genitals [4,5]. It is generally asymptomatic but can also present with complains of urine pooling in vagina on voiding followed by leakage from the vagina on standing after voiding or changes in the direction of urine stream. In about 20% of girls, asymptomatic bacteriuria develops and up to 40% experience symptomatic urinary tract infections. If there are no complains or complications, the adhesions do not need treatment.

The medical treatment of labial adhesions for young girls is application of topical estrogen cream directly on the labia minora [6]. Conjugated estrogen cream or estradiol vaginal cream (0.01%) applied to the adhesions 1-2 times daily for several weeks until the adhesion resolves [7]. Other conservative methods will include manual self-dilatation or by a medical expert were in repeated multiple sessions. Adhesion if dense or not responding to medical treatment may require surgical management [8]. The adhesions are divided by gentle traction or running a sound along the fusion line. Blunt dissection can be carried out using artery forceps followed by regular dilatation [9].

Z-plasty [10] is a technique of wound closure. It is plastic surgical technique that at its core trades a shorter, simpler scar for a longer, more complex one. It is used to increase length of a tissue or scar, break up a straight-line scar and realign a scar. When the skin is undermined, 2 triangular flaps are created. Transposition of these triangles redistributes tension on the wound and changes central limb direction. The degree of elongation of longitudinal axis of z-plasty is directly related to angles of its constituent flaps. Flaps with 60-degree angles are most commonly used as they lengthen without tension. As with other methods of scar revision that interrupt a straight scar, the scar resulting from Z-plasty will counter forces of scar contracture. This is because of the very nature of the Z-shaped scar that occurs from Z-plasty. Each segment of the Z contracts in a different direction. Z-plasty used along the wound margins to create an irregular scar has the effect of dispersing wound tension. Z-plasty is particularly useful in treating contracted or webbed scars and scars that distort anatomic facial landmarks. A main advantage of Z-plasty over other techniques, such as W-plasty, is that it does not require skin excision for the procedure to be performed.

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CONCLUSION

Apart from routine use of local applicants and adhesiolysis, it is important that new techniques are used for recurrent cases of vulval adhesions which are cheap and easy to apply for routine surgical practice as the condition requires reliable intervention without major discomfort to the patient in present and future. Using of Z-plasty technique for approximation of normal skin to mucosa in uneven way brings an alternative option to routine linear suturing technique of raw area which will avoid recurrence. It needs to be used in such cases with success.

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